UNIVERSITÀ DEGLI STUDI DI MILANO

Curriculum vitae

AL MAGNIFICO RETTORE
DELL'UNIVERSITA' DEGLI STUDI DI MILANO **COD. ID: 6715**

Il sottoscritto chiede di essere ammesso a partecipare alla selezione pubblica, per titoli ed esami, per il conferimento di un assegno di ricerca presso il Dipartimento di _____Bioscienze _____

Responsabile scientifico:_Professor Martin Kater

Rosanna Petrella

CURRICULUM VITAE

PERSONAL INFORMATION

Last name	**Petrella**
First name	**Rosanna**

CURRENT OCCUPATION

Assignment	Structure
RESEARCH GRANT	Laboratory Prof. Lucia Colombo, Department of Biosciences, University of Milan, Via Celoria 26, 20133 Milan. ORCIDid: 0000-0002-2369-6632 Google scholar: Rosanna Petrella

EDUCATION AND TRAINING

Title	Course of study	University	year of qualification / grade
PH.D	Doctoral School in MOLECULAR AND CELLULAR BIOLOGY	University of Milan	05/03/2020
MASTER'S DEGREE	Master's Degree in MOLECULAR BIOLOGY OF THE CELL	University of Milan	2016 cum laude
THREE-YEAR DEGREE	Degree in BIOLOGICAL SCIENCES	University of Milan Bicocca	2014

FOREIGN LANGUAGES KNOWN

Languages	Knowledge level
English	Advanced level C1

AWARDS, ACKNOWLEDGMENTS AND SCHOLARSHIPS

Year	Award description
2021	Award for best talk “SMB, Plant Biochemestry and Molecular Biology”
2020	Society for Experimental biology fundings for the organization of the symposium "Plant Reproduction Down Under"
2019	Scholarship for promising young people from the University of Milan
2014	Scholarship for Deserving Students, University of Milan

TRAINING OR RESEARCH ACTIVITIES

06/20 - present
Research fellow (Laboratory Prof. Lucia Colombo, Department of Biosciences, University of Milan). Project in collaboration with KeyGene Company, Wageningen, the Netherland. Project: Molecular control of the Diplospory phenomenon in dandelion and Arabidopsis and study of the factors involved in determining the female germline.

10/2019 - 06/2020
Scholarship holder (Laboratory Prof. Lucia Colombo, Department of Biosciences, University of Milan). Project in collaboration with KeyGene Company, Wageningen, the Netherland. Project: Molecular control of the Diplospory phenomenon in dandelion and Arabidopsis and study of the factors involved in determining the female germline.

04/2023-10/2023
Visiting Post doc researcher (School of Agriculture, Food and Wine, University of Adelaide) at the laboratory of A/Prof. Matthew R. Tucker within the "MAD" project to study cell-to-cell communication and hormonal cross-talk during female germline differentiation and progression in *Arabidopsis thaliana.*

11/2019-03/2020
Visiting Post doc researcher (School of Agriculture, Food and Wine, University of Adelaide) at the laboratory of A/Prof. Matthew R. Tucker within the "SEXSEED" project to study cell-to-cell communication during female germline differentiation and progression in *Arabidopsis thaliana.*

05 / 2018-06 / 2018

Visiting PhD student (Faculty of Agriculture, University of Niigata) at Mitsui Toshiaki's laboratory within the "EXPOSEED" project to study protein-protein interactions during flower development in *Arabidopsis thaliana.*

03 / 2017-11 / 2017
Visiting PhD student (School of Agriculture, Food and Wine, University of Adelaide) at the laboratory of A/ Prof. Matthew R. Tucker within the "SEXSEED project" to study factors involved in synergids degeneration and fertilization in *Arabidopsis thaliana.*

10/2016 - 10/2019.
DOCTOR (Doctoral School in Molecular and Cellular Biology, XXII cycle, University of Milan). Research Group of PhD Veronica Gregis, Department of Biosciences, University of Milan. Project: Study of the role and molecular mechanisms of BASIC PENTACYSTEINE PROTEINS (BPCs) in flower and fruit development in *Arabidopsis thaliana*.

10/2015 - 10/2016
INTERNSHIP for the Master's Degree at the laboratory of Prof. Martin Kater, Department of Biosciences, University of Milan. Study of transcription factors involved in flower development in *Arabidopsis thaliana*.

PUBLICATIONS

Articles in journals

1. **"Germline ß-1 1,3-glucan deposits are required for female gametogenesis in Arabidopsis thaliana.**. Pinto SC, Leong WH, Tan H, McKee L, Prevost A, Ma C, Shirley, **Petrella R**, Yang X, Koltunow M, Bulone V, Kanaoka M, Higashyiama T, Coimbra S and Tucker MR". Nature Communication, 2024.

2. **"Pivotal role of STIP in ovule pattern definition and female germline development in *Arabidopsis thaliana*". Rosanna Petrella**, Flavio Gabrieli, Alex Cavalleri, Kay Schneitz, Lucia Colombo, Mara Cucinotta. September 2022 Development DOI: 10.1242/dev.201184

3. **"The emerging role of small RNAs in ovule development, a kind of magic". Rosanna Petrella**, Mara Cucinotta, Marta Adelina Miranda Mendes, Charles Underwood, Lucia Colombo June 2021 Plant Reproduction DOI: 10.1007/s00497-021-00421-4.

4. **"The RNA-dependent DNA methylation pathway is required to restrict SPOROCYTELESS/ NOZZLE expression to specify a single female germ cell precursor in Arabidopsis"**. Marta Adelina Miranda Mendes, **Rosanna Petrella**, Mara Cucinotta, Eduardo Vignati, Stefano Gatti, Sara Cristina Mendes Pinto, Dayton Christopher Bird, Veronica Gregis, Hugh Dickinson, Matthew Robert Tucker, Lucia Colombo December 2020 Development DOI: 10.1242/dev.194274.

5. **"Spatiotemporal Restriction of FUSCA3 Expression by Class I BPCs Promotes Ovule Development and Coordinates Embryo and Endosperm Growth"** Jian Wu, Deka Mohamed, Sebastian Dowhanik, **Rosanna Petrella**, Veronica Gregis, Jingru Li, Lin Wu, Sonia Gazzarrini April 2020 The Plant Cell DOI: 10.1105/tpc.19.00764.

6. **"BPC transcription factors and a Polycomb Group protein confine the expression of the ovule identity gene SEEDSTICK in Arabidopsis" Rosanna Petrella**, Francesca Caselli, Irma Roig-

Villanova, Valentina Vignati, Matteo Chiara, Ignacio Ezquer, Luca Tadini, Martin M. Kater, Veronica Gregis January 2020 The Plant Journal DOI: 10.1111/tpj.14673.

7. **"REM34 and REM35 Control Female and Male Gametophyte Development in *Arabidopsis thaliana"*** Francesca Caselli, Veronica Maria Beretta, Otho Mantegazza, **Rosanna Petrella**, Giulia Leo, Andrea Guazzotti, Humberto Herrera-Ubaldo, Stefan de Folter, Marta Adelina Mendes, Martin M. Kater, Veronica Gregis October 2019 Frontiers in Plant Science DOI: 10.3389/fpls.2019.01351.

MANUSCRIPTS IN PREPARATION

Vacuolar protein sorting 13 (VPS13) mediates female germline progression and megaspore selection in Arabidopsis through the maturation of miR390. Mara Cucinotta, Rosanna Petrella, Letizia Cornaro, Peter Van Dijk, Diana Rigola, Lucia Colombo.

Modulating of DNA methylation in Arabidopsis improves ovule number and fertility under drought stress. Rosanna Petrella, Alex Cavalleri, Giada Callizaya Terceros, Erica Filippini, Lucia Colombo, Marta A. Mendes, Mara Cucinotta.

"AUXIN RESPONSIVE FACTOR 10 insensitive to miR160 regulation induces apospory-like phenotypes in Arabidopsis". Silvina Pessino, Mara Cucinotta, Carolina Colono, Elena Costantini, Davide Perrone, Giada Callizaya Terceros**, Rosanna Petrella,** Celeste Azzaro, Maricel Podio, Hugh Dickinson, Gianpiero Marconi, Emidio Albertini, Lucia Colombo, Marta A. Mendes.

PEER REVIEWER ACTIVITY

Peer reviewer for :

- Plant Reproduction. Impact factor: 4.2
- Frontiers in Plant Science. Impact factor: 6.6

CONFERENCES, CONFERENCES AND SEMINARS

Date	Title	Type of presentation	Headquarters
06/2024	Riunione annuale dei Gruppi di Lavoro SBI. Biologia Cellulare e Molecolare - Biotecnologie e Differenziamento	Selected talk	Verona, Italy
06/2022	Congress on Sexual Plant Reproduction.	Poster	Prague,Czech

			Republic
11/2021	SMB, Plant Biochemistry and Molecular Biology 2021.	Selected talk	Virtual
09/2021	RAFV 2021, Argentinian meeting of Plant Physiology.	Selected talk	Virtual
10/2020	The complex life of RNAs.	Poster	Virtual
02/2020	Symposium: Plant Reproduction Down Under.	Selected talk	Adelaide, Australia
08/2019	FASEB Meeting, The mechanisms in Plant development.	Poster	Olean, NY, USA
06/2019	8th PhD student workshop.	Talk	Milan, Italy
07/2018	SEB Meeting, Advances in plant reproduction - from gamete to seeds.	Poster and selected short talk	Florence, Italy
06/2018	KAAB 8th Young Scientist seminar.	Talk	Niigata, Japan
06/2018	Congress on Sexual Plant Reproduction.	Poster	Gifu, Japan
07/2017	*Workshop on Molecular mechanisms controlling flower development.*	*Poster*	Padua, Italy

TEACHING ACTIVITIES:

2020/2021-2022/2023
Lecture in the course "Methodologies applied to Plant biology" held by PhD Marta Mendes for the students of the Faculty of Biological Sciences at the University of Milan

2021/2022
Lecture in the course "Plant Development" held by Prof. Lucia Colombo for the students of the Faculty of Plant Science of the University of Milan and Université de Grenoble Alpes

2019/2020-2023/2024
Collaboration in general botany practical lessons belonging to the course held by Prof. Lucia Colombo, Prof Elisabetta Caporali and Prof. Masiero for the students of the Faculty of Biological Sciences at the University of Milan

2017/2018
Collaboration in genetics practical lessons belonging to the course held by Prof. Martin Kater for students of the Faculty of Biotechnology at the University of Milan

OTHER EDUCATIONAL TASKS

CORRELATOR of six experimental theses in the field of plant development biology:

- 2021-2022 Alessandro Ruiu. Master's Degree in Molecular Biology of the Cell, Faculty of Biosciences of the University of Milan.

- 2020-2021 Giovanni Citelli. Bachelor's degree in Natural Sciences, Faculty of Biosciences of the University of Milan.
- 2020-2021 Fabio Gabrieli. Master's Degree in Molecular Biology of the Cell, Faculty of Biosciences of the University of Milan
- 2020-2021 Marta Belloli. Master's Degree in Plant Science, Faculty of Biosciences of the University of Milan and Université de Grenoble Alpes.
- 2019-2020 Annamaria Piva. Master's Degree in Biotechnology and Bioinformatics. Faculty of Biotechnology of the University of Milan.
- 2018-2019 Valentina Vignati, Master's Degree in Molecular Biotechnology and Bioinformatics, Faculty of Biotechnology of the University of Milan.

INTERNATIONAL FUNDED PROJECTS

2020-2024 Role: member of the "MADS - Mechanisms of Apomictic Developments" project unit. H2020-MSCA-RISE-2019 GA number: 872417. Project coordinator: Olivier Leblanc.

2016-2020 Role: member of the "EXPOSEED - Exploring the molecular control of seed yield in crops" project unit. H2020-MSCA-RISE-2015 GA number: 691109. Project coordinator: Raffaella Battaglia.

2016-2020 Role: member of the SEXSEED project unit - "Sexual Plant Reproduction - Seed formation" - Horizon2020- MSCA RISE 2016 GA number 690946. Project coordinator: Silvia Coimbra

NATIONAL AND INTERNATIONAL COLLABORATIONS

A/Prof. Matthew R. Tucker, School of Agriculture, Food and Wine, University of Adelaide, Australia.

A/Prof. Sonia Gazzarini, Department of Biological sciences, University of Toronto

Prof. Stefan De Folter, Cinvestav, Irapuato, Mexico

Peter J. Van Dijk, KeyGene NV

Diana Rigola, KeyGene NV

Prof. Emidio Albertini, Department of Agricultural, Food and Environmental Sciences, University of Perugia

Prof. Kay Schneitz, Plant Developmental Biology, TUM School of Life Sciences Technical University of Munich

Prof. Alex Costa, Department of Biosciences of the University of Milan

Prof. Rudiger Simon, Institute of Developmental Genetics Heinrich Heine, University Düsseldorf

COURSES AND OTHER INFORMATION

Practical Course in Advanced Confocal Microscopy, Department of Biosciences, University of Milan.
Practical course of Microscopy, NIKON, University of Adelaide, Australia.

OTHER ACTIVITIES

- 2018/2019 representative of PhD students in the Department of Biosciences, University of Milan.
- Member of the Organizing Committee of the "Symposium: Plant Reproduction Down Under" https://downunderplantreproduction.wordpress.com/ Adelaide, Italy. (2019-2020).

TECHNICAL SKILLS

Molecular Biology: Cloning (Gateway system, Gibson Assembly); PCR (RT-PCR, qRT-PCR, Stem-loop RT-qPCR for miRNAs); bacterial transformation (E.coli, A. tumefaciens); transformation of *Arabidopsis thaliana* and *Nicothiana benthamiana, In situ* hybridization; mutant screening; CRISP-CAS9 genome editing; Polysome Profiling; ChIP - Chromatin immunoprecipitation; BIFC - Bimolecular Fluorescence, CoiP. protoplast transformation; yeast transformation, Yeast Two Hybrid Assay.

Bioinformatics: Analysis of RNA-sequencing, Analysis of transcriptional factors binding sites.

Microscopy: Optical microscope, Fluorescence microscope, Confocal microscope, Spinning disk microscope

The declarations made in this curriculum are to be considered issued pursuant to art. 46 and 47 of Presidential Decree no. 445/2000.

This curriculum does not contain sensitive data and judicial data referred to in art. 4, paragraph 1, letters d) and e) of Legislative Decree 30.6.2003 n. 196.

I authorize the processing of data pursuant to EU Regulation 679/2016

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Si prega pertanto di **NON FIRMARE** il presente modello.

Luogo e data: _27/06/2024__, Milano_